

# Northumbria Research Link

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Jean Brown – School of Arts and Social Sciences

Jean Brown from the School of Arts & Social Sciences is co-ordinating two cross disciplinary collaborative research projects with colleagues from the School of Built and Natural Environment and the School of Life Sciences. The first is the evaluation and development of a sustainable system for providing cool storage without the use of electricity. The outside of the storage container is covered with a material from which water can evaporate. The cooling affect is achieved as a result of the latent energy required for water to evaporate from its surface. The system has effectively demonstrated internal temperatures of 17 centigrade whilst external temperatures are 30 centigrade. Funding has been provided through a Northumbria University commercial enterprises scheme. The second project is part of a Knowledge Transfer application with the Mining Institute in Newcastle upon Tyne that would be funded by the Arts & Humanities Research Council. It investigates the use of dry ice for cleaning library and archive materials. The dry ice is broken down into small pellets that are fired at the materials requiring cleaning. As the ice hits the surface of the dirt it causes it to crack. At the same time the ice sublimates and gas is evolved, which enters the cracks and forces the dirt away from the surface of the artefact. The effectiveness of the dirt removal and any resulting changes to the surface of the artefact will be evaluates using a scanning electron microscope (SEM) and energy dispersive x ray analysis (EDX)